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THIS REPORT IS A SURVEY OF THE RESEARCH ON THE PROCESS BY WHICH STUDENTS MOVE FROM SECONDARY TO HIGHER EDUCATION. THE LARGEST AREA OF RESEARCH IS ON THE IDENTIFICATION AND SELECTION OF STUDENTS FOR ADMISSION TO COLLEGE. METHODS OF PREDICTING ACADEMIC PERFORMANCE HAVE BEEN GREATLY REFINED, BUT THE SEARCH CONTINUES FOR BETTER MEASURES OF NONINTELLECTIVE FACTORS. ATTENTION, WHICH FOCUSED FROM THE MIDFIFTIES TO THE EARLY SIXTIES ON TALENTED STUDENTS, HAS SHIFTED TO DISADVANTAGED STUDENTS. A MAJOR CONCERN HAS BEEN WITH IMPROVEMENTS IN GUIDANCE, AND HERE, NEW APPROACHES USING DATA RETRIEVAL SYSTEMS WERE FOUND TO BE GENERATING NEW OPPORTUNITIES AND NEW PROBLEMS. ONE CATEGORY OF STUDENTS FREQUENTLY OMITTED FROM RESEARCH CONSIDERATION IS THE GROUP WHICH DOES NOT ENTER COLLEGE DIRECTLY UPON GRADUATION FROM HIGH SCHOOL. THE AUTHOR CONCLUDED (1) STUDIES OF FACTORS AFFECTING STUDENTS' SELECTION OF COLLEGE SUGGEST THAT THERE IS A CONSIDERABLE DEGREE OF IRRATIONALITY IN THE ENTIRE PROCESS, (2) FINANCIAL ABILITY APPEARS NOT TO BE THE DECISIVE FACTOR LIMITING COLLEGE ATTENDANCE, BUT IT MAY BE AN IMPORTANT FACTOR IN DETERMINING WHERE A STUDENT GOES TO COLLEGE, AND (3) MUCH MORE ATTENTION NEEDS TO BE GIVEN TO STUDIES OF THE IMPACT OF TRANSITION PRACTICES AND POLICIES ON SECONDARY SCHOOLS AND COLLEGES AS SUCH. (TC)

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NEW DIMENSIONS
IN HIGHER EDUCATION

Number 17

TRANSITION FROM SCHOOL TO COLLEGE

by Norman D. Kurland

Everett H. Hopkins, Editor

U. S. DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE

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TABLE OF CONTENTS

		Page
	About the Author	iii
	Foreword	v
	Highlights	vi
I.	Identification and Selection	1
II.	Talented Students	8
III.	Disadvantaged Students	10
IV.	Guidance	13
V.	Delayed Attendance Students	19
VI.	Factors Affecting College Selection	21
VII.	Financial Aid	25
VIII.	Articulation Between School and College	28
IX.	Conclusion	35
	Footnotes	37
	Annotated Bibliography	43
	Reactions	

FOREWORD

(If and when this manuscript is published for general distribution, the Editor will gladly prepare an appropriate Foreword for the wider audience.)

HIGHLIGHTS

This report is a survey of the research on those matters that bear upon the process by which students move from secondary to higher education. It discusses a number of problems that need further study.

1. The largest area of research is on the identification and selection of students for admission to college. Methods of predicting academic performance have been greatly refined, but the search continues for better measures of non-intellective factors.
2. Attention, which focused from the mid-fifties to the early sixties on talented students, has shifted in recent years to disadvantaged students.
3. A major concern has been with improvements in guidance, and here new approaches using data retrieval systems are generating new opportunities and new problems.
4. One category of students frequently omitted from research consideration is the group who do not enter college directly upon graduation from high school.
5. Studies of factors affecting students' selection of colleges suggest that there is a considerable degree of irrationality in the entire process.
6. Financial ability appears not to be the decisive factor limiting college attendance, but it may be an important factor in determining where a student goes to college.
7. Much more attention needs to be given to studies of the impact of transition practices and policies on secondary schools and colleges as such.

I. IDENTIFICATION AND SELECTION*

The topic "Transition from School to College" includes all those matters that bear upon the process by which students move from secondary to higher education and the effects of those processes on students and institutions.

On some of these topics the amount of research has been very extensive, while on others only the slightest headway has been made. One area in particular, studies on the identification and selection of students for admission to college, probably accounts for more research and research reports than all other areas of higher education research combined.

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* The selection and preparation of the bibliography was largely the work of Dr. John M. Reilly, Assistant Professor, Department of English, State University of New York at Albany. For preparation of the manuscript while keeping up with the regular flow of office work, grateful acknowledgement is made to Mrs. Dorothy Cherdack and other members of the secretarial staff of the Center on Innovation.

The reasons for this attention are important to consider if one is to assess the significance of the research, to determine whether more is needed, and to understand the forces which influence the areas in which research effort is concentrated. Prior to World War II, identification and selection of students for college were relatively minor problems. Fewer students completed high school and most of those who did and wished to go on to college could gain admission to the college of their choice if they had the financial means to attend. After the war, as the number of students who completed high school and wished to go on to college increased, the problem of matching student to college emerged.

When the better-known colleges began to have more applicants than they could accommodate, they came to recognize that they had an allocation problem: how to make the best possible use of limited resources. There was general agreement that the best use of resources would result if each college could admit just those applicants best suited by prior preparation, ability, interests, and inclination to benefit from the program the college had to offer. The closer the institution could come to this ideal, the fewer of its resources would have to be spent correcting deficiencies and the less chance of waste would result from failure of students to complete the academic program of the college. Hence started the extended effort to produce valid and reliable means of screening out the least qualified students and selecting the most highly qualified students. In general, this meant a quest for instruments that would measure those factors that were thought to have most to do with success in college--ability or intelligence, achievement, and motivation. Individual colleges, the national testing agencies, and the College Entrance Examination Board all did extensive and important work in the development of tests and other instruments of prediction--interview schedules, questionnaires, and rating scales among them--designed to help colleges separate the less qualified from the more highly qualified.[1] As the number of college applicants increased, it became important to develop methods that were amenable to large-scale applications and yet give good results. Along with this increased emphasis on college attendance, and particularly as entrance to the "right" college became of greater concern, the need to minimize "mistakes" similarly increased and led to many studies to improve the instruments.[2]

Most of these studies showed that the single best predictor of college performance was performance in high school. All other measures added only small amounts to the prediction index derived from any combination of high school grades and rank in class. When measures of scholastic ability were added to high school indicators, a prediction index resulted which was not much improved upon by including other measures.[3] Somewhat different results were obtained, however, in a study of prediction and selection in a community college.

Other limitations of prediction studies are that they tend to use college grades as the chief criteria, and most limit themselves to the freshman year. What are needed are analyses of the data from such longitudinal studies as Project Talent[4] and the study at the University of California directed by Leland L. Medsker.[5]

In making their predictions, colleges make some assessment of the relative quality of the high schools. Some do this on the basis of the subjective judgments of the admissions office staff, while others try to use more objective data derived from experience with the schools and their graduates. For obvious though not necessarily defensible reasons, colleges keep their rankings of high schools to themselves. An effort is being made to develop tests that would allow colleges to take into account the influence of substandard school programs.[6]

Along this same line, studies of accreditation of high schools are singularly lacking. What is the influence, if any, of present accreditation practices on high schools? Is the uniformity among American schools which was noted in a recent study[7] due in any large measure to the influence of the college admission requirements and accreditation practices?

In spite of the limits within which prediction can and could be improved, there were pressures following the war to increase the accuracy of prediction, even if only by small amounts, and to find ways of selecting students by factors other than academic promise.[8] Particularly was this the case among the highly desired colleges which had more promising applicants than they could handle. They began to push the search for other qualities that were important objectives of education--creativity, leadership, intellectuality, etc.--and to seek ways of measuring these qualities, thus far without great success.[9]

Another factor that led to the quest for other predictors and for refinements in the use of achievement measures[10] was that the combination of high school record and scholastic ability fell considerably short of perfect prediction. Even in the most highly selective institutions the percentage of students admitted who did not remain to receive their degrees was high, and across all institutions the percentage of students admitted who did not complete their work at the institution was even higher. Thus, there was a need on the part of some institutions to select "the best of the best," and on the part of most colleges to improve selection to reduce subsequent loss.

All of this effort was based on two assumptions. The first was that it was better for the student to complete his collegiate education in one institution, a highly institution-oriented assumption that has occasionally been questioned. A second assumption was that effectiveness of a collegiate program was best measured by the grades the students received in their courses. An "A" student was thus clearly better than a "C" student, and a selection system that produced more "A" than "C" students was a better selection system. This led, however, to a curious circularity that has come to attention in recent years. Colleges said, in effect, "our resources are limited; therefore give us students who can benefit most from our program." They then used grades as criteria for those who benefited most, clearly the best way to assure a high proportion of students able to earn high grades. But a student who is already able to do what the institution wants him to do will benefit relatively little from what that institution has to offer. As T. R. McConnell pointed out, institutions came to select students who could do the most for them, not students for whom they could do the most. It is perhaps this situation that accounts for much of the recent student unrest in colleges. Students want to be challenged and to risk even failure; the colleges want success and are afraid of failure. One of the things to watch in the next few years will be the extent to which the ablest high school graduates reject college entirely as the avenue for their own personal development.

Yet this will assuredly be only a minority trend. The great majority of high school graduates will continue to make the transition from school to college and will want guidance as to how to make the wisest choice. In addition to the direction they will get from high school guidance counselors and college admissions officers, they will turn to commercially published guides to colleges, some of which are based on careful analyses of institutions of higher education.

At the same time, the colleges are seeking to refine the process of placement as well as selection. Using experience data from previous generations of students, the American College Testing Program can give for each student the probability with which specific grades will be earned in specific courses. These are nice exercises in statistical analysis. For the students they reduce the risk of taking college courses that are too "hard" for them; for the college they help assure that most students will get good grades and graduate; and for the instructor they reduce the chance that he will get students who cannot be reached by him. If this is what is wanted, the extensive research on measurement and prediction has made it possible to work out this philosophy to ever-greater degrees of refinement.

II. TALENTED STUDENTS

The goal toward which the American school-to-college system has been moving is that every qualified student ought to go to college. Prior to the middle fifties the goal might have read "every interested qualified student." But with Sputnik and the realization that development of talent was a national and not merely a personal concern, a major national effort was directed toward assuring that all "talented" students be encouraged to attend colleges.

For one thing, the nation was shocked into concern by reports on the percentage of students in the upper 2, 5, or 10 percentiles by intelligence who did not attend or did not complete college. Studies were directed at finding out why these students did not attend college and how to get them to do so.[11] Out of this spate of activity came such programs as the National Merit Scholarship Program designed to recognize talented graduates and provide financial aid for some; the various collegiate and state scholarship and loan programs to reduce the financial barrier to college attendance; the Advanced Placement[12] and Early Admissions Programs[13] aimed at providing more challenging work for able high school seniors; and a wide variety of high school projects directed at motivating able students to go on to college.

This whole effort was aimed at getting what might be termed "visible talents" to channel themselves into the socially desirable and useful course of college attendance. Because there was a high congruence between individual and social values, the efforts were highly successful. The percentages of students in the upper ability ranges who did not go on to college dropped off measurably, and the most able students, even of limited means, tended increasingly to go to the more selective institutions. Techniques for the identification of able students also improved.[14]

The colleges, too, made adjustments to the needs of able entering students. Some colleges permitted them to take more advanced work,[15] and many established a wide variety of honors programs.[16]

Thus, by the mid-sixties it began to appear that all that was left to be done was to increase the number of places in colleges to accommodate ever-increasing numbers and percentages of college-age youth. The only issue that seemed to remain was whether there were any students for whom college attendance would not be appropriate.

III. DISADVANTAGED STUDENTS

At this point, however, events thrust another challenge at the system, one that brought into question some of its basic assumptions. The civil rights movement led to an examination of the participation in higher education of Negro and other non-white students. That the numbers of these students were small was evident; but that there were as few as surveys soon revealed (less than 2 percent in most colleges other than predominately Negro colleges) was a shock to many.

The first explanation offered by the colleges was that it was not overt discrimination which could account for the situation but lack of "qualified" Negro applicants. However, a number of institutions did find that when efforts were made to locate and interest Negro students, the numbers who qualified could be somewhat increased.

This still left a sizable gap between the percentage of Negro and non-whites in the college-age group and the percentage of them actually in college. In turn, this has led to an examination of the concept of the "qualified student" and the adequacy of the instruments used to identify him.[17] It quickly became evident that instruments designed to confirm ability and achievement already largely revealed in high school were not adequate to expose latent talent that had not previously been realized.[18] Hence, the recent search for methods that would help identify students from deprived backgrounds who nevertheless might do well in college.

This new approach still left basically untouched the system itself which defined its task as adding accomplishments in proportion to what had already been accomplished. Thus, the brightest students went to the "best" colleges and had the best instructors, while the dullest students went to the weakest institutions and had the poorest instructors. (Fortunately, this generalization, like all others, has exceptions.) It is as though the healthiest patients went to the best doctors and hospitals, while the sickest patients went wherever they could get treatment.

Now higher education is beginning to ask whether or not its task has to be redefined.[19] Should the measure of a successful institution be only how well its students do, which can best be assured by selecting only students who already can "do," or should it measure itself in terms of the degree of difference it makes to those it selects? If the latter becomes its task, the whole selection process will change: new instruments will be required measuring potential rather than accomplishment, and, because they will then have to be concerned with how to help potential abilities become actualized, colleges will have to be concerned with matters they have too often ignored--

teaching and learning. Already research centers on college teaching have been established on several campuses. The degree to which these centers flourish and spread will be a measure of the extent to which colleges are taking seriously their responsibility to teach as well as to provide opportunities to learn.

It is to be hoped that the focus on the Negro student will lead to programs that will benefit all those who because of home or community environment were not prepared or motivated for college attendance.[20] Many colleges and universities of the nation are coming to realize that their task is not completed by merely offering opportunities; they must actively help their students to understand those opportunities and how to take the fullest possible advantage of them. Some colleges are participating in this effort through "Upward Bound" and other similar programs.

IV. GUIDANCE

As the proportion of students who continue their education beyond high school increases, and as the backgrounds of these students become more varied, the problems of guiding students to appropriate opportunities will become more complex. Furthermore, the conditions governing career decisions are rapidly changing. The world of jobs and careers is in flux. It is more difficult than ever before to say at age 17 what one will do at age 27 or 37. Even if one aims at a traditional profession--engineering or medicine--it is becoming harder and harder to say what is appropriate preparation when knowledge becomes obsolete almost before it is mastered. Greatly improved procedures will be required if students are to make reasonable choices during the transition from school to college. They should have as much information as possible about themselves, about the institutions which they might attend, and about the alternative futures open to them--and the information should be as current and relevant as possible.[21]

With modern data-processing equipment it is becoming more and more feasible to supply such information. Vast amounts of data on institutions and occupations can be collected, analyzed, and rapidly made available to be matched with specific data on the individual. It will soon be possible to develop for each student a profile that will reflect his abilities as measured in a variety of ways, his achievements, his experience, his interests, and whatever else may be useful in providing a basis for selection. This individual profile will be able to be matched against profiles for college and occupational characteristics so that the individual may see which colleges and institutions now attract persons most like himself[22] as well as what his probabilities of success will be in various institutions and occupations.[23]

With these data before him the student can make his own choices. Does he want a college where most of the students are similar to him or where most of them are different? Does he want an occupational goal where success is easy or difficult? Does he want stability and security or change and risk?[24]

Institutions, too, can use the system to match applicants to their needs. Colleges can choose the blend of students they desire and have a better chance than ever that they will get what they seek. Employers too will be able to match job demands and people.

Nevertheless, the fear of many people that such a system will destroy individual freedom of choice is a real one and therefore requires serious attention. Granted that an individual's decisions are better when he has more relevant information, is there a point beyond which an increase in data reduces genuine personal freedom? It is none too soon to ask this question for work is steadily going forward to create the kind of system herein described.

Much work remains to be done both in the working out of the detailed operations of such a system and in the collection of data. Many questions remain to be asked. What are the relevant characteristics of a college or occupation about which a student ought to be supplied information?[25] What are the characteristics of individuals that ought to be taken into account in the matching of college and student? How can individual and institutional characteristics be best described?[26]

The research that has been done will need to be augmented with more detailed studies aimed at supplying relevant data. And as the system develops, institutions and guidance personnel will be faced with a number of basic issues:

1. How homogeneous a student body should the institution seek? If it becomes too homogeneous, the students may not learn enough from each other; if it is too heterogeneous, the task of meeting individual needs may become too great and some students will be in programs that are not best for them. Will research be able to help work out the best mix?

2. For individuals, there is the problem of risk vs. realism.

How much risk should individuals be encouraged to take? Should every individual be encouraged to aim as high as possible, or, as more information becomes known about what is "realistic," should individuals be encouraged to be "realistic" in setting their goals? Research will be needed on the relationship between aspiration, ability, education, and goal attainment.

3. To help individuals weigh alternatives and understand better the consequences of their decisions, newer approaches to guidance should be explored.[27] The computer system has already been mentioned. It can be programed to help a student simulate various careers to find out what it would be like if a person of his type made various decisions at various crucial times.

4. Still another promising approach is the use of games. Here the student can watch the working out of decisions in a dynamic situation in which he can try various roles.

With both the computer and the game, the individual can try various alternatives before making his choice. Much work remains to be done on both approaches to ensure that they are adequate models of reality and yet are simple enough to be used under normal operating conditions including the limits on time available for participation.

5. Research will be required too on the extent to which there is

transfer from the simulated to the real environment. Some very intriguing problems are likely to arise in such research. For example, should a simulated environment include the fact that simulation is part of the environment? If so, the uses to which simulation were put would have to be simulated. Also, as simulation is more widely used, this fact itself will affect the data. If simulation indeed helps in the making of choices, the basic data will change. Thus, at some point it may be necessary to make such statements as the following: For persons like yourself who have not explored alternatives, the chances of success in College A are X; for those who have made their choices after exploration, the chances are Y.

To incorporate such data will not be as difficult as it may at first seem. One of the advantages of the computer is that its previous use can be made a part of the data. In other words, each person who uses the computer system for guidance can become a source of new data. His subsequent decisions and experience can be fed back to the computer which can then use all the data to refine its information. The decision will be based on practical, not theoretical, factors. But, is the gain in refinement worth the expense of adding data in this way?

As this system develops, the nature of the transition from school to college will be radically altered. Up to now the transition took place at a precisely defined point in an individual's career and involved his movement between two relatively discrete entities. To be sure, a few individuals made the transition earlier while some made it later, and there has always been some debate as to whether certain activities were more appropriate to the high school or the college. Nevertheless, for most students the transition from school to college was a single, clear, and major event. The impact of the newer guidance system combined with an instructional system that concentrates on individualizing instruction will be to bring people to a readiness for transition at different points in their careers. Even the same person will be ready in some areas before he is ready in others. Thus, a student at age 15 may have completed all of the mathematics his high school is prepared to offer, but he might need several more years before he can benefit from college work in English.

Be that as it may, it will probably be many years before this exacting question of student transition becomes a source of major problems. Much more research is needed.

V. DELAYED ATTENDANCE STUDENTS

There is, however, one kind of student for whom the deviation from standard transition patterns is a present concern. This is the individual who might be designated the "delayed admission student." This category would include all those who for one reason or another do not enter college within three to six months of high school graduation. For many the delay will result from military service; but for others it will be the result of a delayed recognition of the importance of college attendance. What are the characteristics of such delayed admission students? What research has been done on veterans and what does it reveal?[28] How much loss results from the delay? How do such students perform in comparison with regular entry students?[29] If their failure rate is higher, would special programs help? How can their "life" experience be evaluated? Should it be "counted" in any way for degree purposes?

These are some of the questions that might be asked, the answers to which might help make it easier for more people to enter higher education on a delayed basis and increase the likelihood of their success. It may turn out that for some individuals delayed entry may be the best course; the additional maturation acquired while away from formal education may be just what is needed for some students to gain maximum benefit from collegiate experience. If this proves to be the case, these data could then become a part of the guidance system.[30]

One major gap in our present approach, then, is the lack of guidance for the delayed student who may wish to go to college. High school guidance personnel generally are no longer interested in such persons; collegiate people generally are not interested or do not have the time to provide general guidance; and in no other agencies are there people who know enough to provide meaningful aid. Thus, it can be seen that guidance counselors specially trained to deal with the problems of out-of-school persons who wish to continue their education are badly needed. To find out just how badly, a survey of need ought to be made. If the need is as great as hypothesized here, universities should be encouraged to set up training programs, and appropriate community agencies should be encouraged to add this service.

In fact, since continuing education is fast becoming a nearly universal requirement for anyone wishing to keep abreast of a changing world, all individuals ought to have access to guidance to help them determine what their needs are and the alternatives available to meet them. Provision of such service on a meaningful scale again suggests the use of the computer. The same system designed to assist high school students might serve this purpose as well.

VI. FACTORS AFFECTING COLLEGE SELECTION

Inasmuch as college selection is so critical a decision in the life of the individual, it was natural for researchers to turn their attention to the factors that influence this decision. It is also the subject of two major new projects.[31]

The influence of ability on college selection is a factor about which research results are varied. Project Talent found a strong positive correlation between aptitude and college attendance,[32] while other studies have found such non-intellective factors as socio-economic status of parents[33] and community characteristics[34] to be more influential. Social class differences are substantially reduced, however, when differences in achievement are taken into account.[35] The lower rate of college attendance among lower class groups may, therefore, be more a reflection of their generally poorer school performance than their lack of aspiration for further education.

In the actual decision-making process, parents are perceived as more influential than either teachers or counselors.[36] Peers, too, exercise a strong influence.[37] Students are, obviously, conscious of only some of the factors that cause them to choose one institution over another. When student and college characteristics are compared, it is seen that the interaction between them exerts a powerful influence.[38] At the same time, there is a considerable degree of irrationality in the entire process. Students often do not have very accurate perceptions about the colleges they choose, and the persons on whom they depend for information are usually not able to provide much help.[39]

Even in the matter of college preparatory courses a curious situation exists. One might expect that almost all students selected for college would have been in a college preparatory program. Actually, however, some 25 percent of the students enrolling in college did not have such a program.[40] When coupled with the finding that the number of years a student studies a particular subject has no significant effect on the grade he makes in the subject in college,[41] some interesting questions are raised about the relationship between high school and college education. Similar findings and similar questions were raised nearly 30 years ago by Ben D. Wood and William S. Learned in their monumental study, The Student and His Knowledge (1938).

One problem that deserves research attention is the impact on students of present selection procedures and the mounting pressures both to go to college and to get into the "right" college. How much are the basic values of education being subverted by the pressure for high grades and test scores thought necessary for a student to get into the college of his "choice"? What are the differences in subsequent college and life performance between students who concentrated heavily in high school on preparing for college entrance and students who took a more "relaxed" attitude toward college admission? How important is it, anyway, to get into the "right" college? If there is evidence that it matters less than many parents, guidance counselors, and teachers believe, then ways ought to be sought to communicate these findings to them.

A closely related study might be directed to the relationship between self-images and the reasons for students' applying to certain colleges. Still another study might be done of the impact on different students of admission decisions. In both studies interesting comparisons might be made of the following types of students: (1) Those who pin all of their hopes on getting into a particular college and (a) are admitted, (b) are not admitted. (2) Those who have a definite order of preference among the colleges to which they apply and (a) are admitted to their first choice, (b) are not admitted to their first choice but are admitted to their second. Do students in the latter situation differ in their attitudes and achievement from the students who selected the college as a first choice? (3) Those students who would prefer one or more institutions to the ones to which they do apply but believe their chances of admission are so low that they do not even apply to the preferred institutions. How does their accomplishment compare with that of students who are willing to risk the chance of a rebuff?

The results of these studies obviously would help determine the importance to be attached to efforts to help students make realistic appraisals of their chances of getting into particular colleges.

It would also be helpful to know more about the impact on students, high schools, and colleges of the practice of multiple applications. Is this a serious enough problem to warrant correction? What would be the effect of attempting to reduce this practice?

VII. FINANCIAL AID

Financial ability as an influence on college attendance deserves special attention since it appears to be such an obvious factor. Yet in view of the preceding discussion, the question must be raised as to whether lack of funds itself is a major factor in non-attendance or whether it is the fact that children from poorer families do not perform as well in school.

A study comparing veterans under the GI Bill and non-veterans found that available financial aid significantly increased college attendance.[42] But another study found that the levels of self-assessment and expectation were more significant than economic levels.[43] Students with high aspirations apparently can "make it" out of any circumstances. Because aspiration level is itself highly correlated with the socioeconomic level of the parents, it has appeared heretofore that financial ability was more of a factor in college attendance than it may really be.

A recent study completed by the U. S. Office of Education indicates further that there is a high correlation between academic achievement and the qualities of the student body, particularly their socioeconomic level. Lower-class students in schools with a larger proportion of higher-class students do better than when in more homogeneous situations.[44]

While financial aid may not be the decisive factor in college attendance, it must certainly play an important role in determining where a student will attend college. Yet the extent of this influence has not been discussed in the studies reviewed. West does observe the lack of a unified, well-developed financial aid program that would permit a better match between the needs of students and the needs of the country for developed talent,[45] and a study has been announced to explore this matter.[46] Still, more research is necessary. It would be helpful, for instance, to know more about the extent to which increased financial aid to individuals actually alters their choice of college. Do students decide where they want to go and then find the means to go there, or do they decide which schools they can afford and limit their consideration to colleges within their means?

In general, as increasing numbers of students come to need financial aid, it will be important to determine the relative effects on motivation and achievement of various forms of financial aid from free tuition to scholarships to loans. In particular, it will be important to study the effects of financial aid on students as they graduate and enter on their life careers. Are students who got a "free ride" via scholarships different from those who were supported by their parents? What effect does a large debt have on a post-college career? What information about such matters filters back from the college graduate to the high school graduate about to make his decision on college attendance?

VIII. ARTICULATION BETWEEN SCHOOL AND COLLEGE

To this point the central focus has been on the student in transition from school to college because this is the emphasis of most of the studies in the field. Very few of these studies have an institutional focus that would lead to investigations of the relationships between schools and colleges as institutional entities. Thus, articulation between school and college is a subject more talked about than acted upon. The communication that does take place is clouded over by mutual suspicions and misunderstandings.[47]

Schools see themselves as the helpless victims of practices--for example, testing programs--over which they have relatively little control.[48] In such an atmosphere it is difficult to establish the kind of relationship that would make the student's education an organic whole.[49]

More study is needed of the institutional interactions of schools and colleges. One approach might be to conceptualize the problem as one of an interface between two systems, the schools and the colleges. The primary transaction between the two systems concerns the flow of students from the one to the other. The concern of the school is to prepare its college-bound students so that they can get into and succeed in those colleges which it perceives as "right" for them. The concern of the college is to get the number of students it requires of the kind it desires with as little expenditure as possible for recruitment and selection and with as few mistakes as possible.

If articulation were perfect, every high school graduate who wanted to go to college would be able to attend exactly the "right" college for him, and every college would get exactly the number and kind of students fully prepared for its program that it wants. Were there absolutely no articulation the two systems would be fully closed to one another--the only interaction being the passage of students. In this situation the schools would know nothing about the colleges and vice versa. The student's placement in the second system would be purely random and it would be merely chance if the situation were "right" for him.

In actuality, articulation is far from perfect; although it is not zero, it seems clear that it is closer to that end of the continuum than to the other. Schools know something about what the colleges expect, and colleges know something about the nature of the preparation and the qualities of the students they receive; but neither knows enough to maximize the interchange for both systems.

Furthermore, the situation is immensely complicated by the fact that each system is not a single entity but a collection of separate and often all too distinct entities. Thus, almost any part of one system may be interfaced with any part of the second. That is, a student in any high school can conceivably go to any one of more than 2,000 colleges in the country. There are then as many possible interface situations as there are high school and college combinations--a number close enough to infinity to be infinity for all practical purposes.

In this situation the task for the high school is how to devise a program that will be reasonably suitable no matter what colleges its students may attend; for the college the task is how to select and treat students who have not necessarily been prepared exclusively for its program; and for the student, it is how to make a smooth and effective transition from one system to another.

For all concerned, a major problem is how to obtain enough knowledge about the total arrangement to make that arrangement work effectively. The flow of information at the interface is critical. On the adequacy of flow will depend, in large measure, the success of the interface transaction.

To insure the flow of information there must be (1) information, (2) in appropriate form for transmission (3) through channels to (4) receivers who can interpret and use the information. Each of these requirements suggests a series of research studies:

1. How adequate is the information now available to the schools about colleges and to the colleges about the schools? How can more adequate information be obtained?

2. What is the best method of communication between the two systems? In what form will respective members of the two systems best be able to use the information? How is information best put into that form and by whom?

3. What are the present channels of communication? How effective are they?

4. Who now receives and uses the information? How is it used? How can this process be improved?

The probability that research on such questions will be undertaken is presently high. Under the impact of greatly increased Federal funding, educational research is entering a new era of what should be very high productivity. The research and development centers, the regional educational laboratories, and the many programs to train educational researchers assure greatly increased attention to research. Experienced behavioral scientists are undertaking studies in education,[50] and centers especially devoted to research in higher education are being given increased funds. Mechanisms for translating research into practice are also being created, and personnel are being trained to concern themselves with the undergirding of educational practice with sound research.

While most of this activity will be focused on elementary and secondary education, many of the findings will undoubtedly be applicable to higher education as well. It is only necessary to list some of the areas that are being studied by the various centers to see the possibilities for relevance to higher education: individual differences, concept formation, measurement and evaluation, administration, teacher preparation, individualization, teaching strategies, systems design, urban education, and change strategies in education.

A major challenge to researchers and practitioners in higher education in the years ahead will be to find ways to avail themselves of the work done at the elementary and secondary levels. Use will certainly be made of the ERIC (Educational Research Information Center) system being developed by the U. S. Office of Education. ERIC will, when it is fully operational, provide a means of ready access to documents on major educational research and practice. Documents will be entered into the system through clearinghouses specializing in various subjects. Each document will be classified in terms of the main topics covered. The user will be able to request available documents on any major theme or combination of themes, using a thesaurus of terms that has been developed for ERIC. He will get a list of numbers of documents that pertain to the requested topics, and he may also get a one-page abstract of each document. Any document that he wishes to see may then be ordered in microfiche (72 pages to a sheet) or in hard copy.

The utility of the ERIC system for higher education would be greatly enhanced if a notation of possible relevance to higher education were added to any document abstract where it is pertinent. Authors of research studies should be encouraged to make this notation in their own abstracts or summaries whenever they think it appropriate, and persons classifying documents for ERIC could be instructed to watch for studies of relevance to higher education.

A second means of keeping higher education in touch with developments in elementary and secondary education would be through the publication at regular intervals (perhaps annually) of well-written summaries of major developments in research and practice at the lower levels that might be of interest at the higher level.

A third way to promote communication would be through conferences involving researchers and practitioners at all levels. Meetings of school teachers and college faculties to exchange experiences and discuss common problems have been all too rare in American education. An encouraging sign, however, are some recent curriculum reform projects and advanced placement programs which have produced a high degree of cooperation among the faculty members and institutions involved.[51]

As interest increases at both levels in founding practice on validated research and experience, there may be more of a common basis for discussion. A beginning might be made by holding conferences under the auspices of the regional laboratories on topics under active investigation that are of considerable concern at both levels.

IX. CONCLUSION--SOME OBSERVATIONS ON THE RESEARCH

In the survey of the research literature on transition from school to college several striking things are observed:

1. The studies are largely focused on the students; very few are directed to the institutions or to the roles of high school and college personnel involved in the transition process. Even in the research on students, the number of students studied is generally small, with the notable exception of Project Talent and some of the College Entrance Examination Board and National Merit Scholarship Corporation studies.

2. There seem to be few public channels for communication among researchers. Most of the items included in the bibliography are reports about the research studies rather than the reports of the studies themselves, and they are directed more to practitioners or a general audience than to specialists. The research reports themselves generally seem not to be published but are available, if at all, in duplicated form from the researcher or the agency sponsoring the research. Given this situation, the ERIC system should greatly increase the accessibility of the research documents themselves.

3. Many of the studies in the area covered in this report were not conducted by persons whose primary activity is research. This accounts perhaps for the paucity of large-scale studies involving large numbers of students over long periods of time. It also explains why there have been relatively few studies that utilize the sophisticated tools of contemporary behaviorial science. The current increased attention to educational research should change this situation dramatically. If this change occurs, a repetition of the present survey a few years hence should reveal much more research-based knowledge about the transition from school to college than is presently available.

FOOTNOTES

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I. IDENTIFICATION AND SELECTION

1. Anastasi, Anne, Martin J. Meade, and Alexander A. Schneiders, The Validation of a Biographical Inventory as a Predictor of College Success. Research Monograph No. 1. New York, College Entrance Examination Board, 1960. 81 p.

This research report is directed to persons involved with helping students move from high school to college. A sample of 150 students in the classes of 1958 and 1959 at Fordham College chosen for this study of the relationship between college success, defined in terms of nonintellectual factors, and biographical data such as high school activities, reading interests, future plans, and family background. Biographical inventory was found to differentiate more effectively among positive, average, and negative success groups than other achievement and personality tests.

2. Astin, Alexander W., "Identification, Motivation, and Training of Talented Students." School and Society, vol. 92, p. 186-89. April 18, 1964.

Using data on the finalists in the National Merit Scholarship Program, this study found that high school achievement was the best predictor of college success. A recurrent finding in the research is that "superior students tend to come from more favorable socio-economic backgrounds than do average students."

3. Berdie, Ralph F., Wilbur L. Layton, Theda Hagenah, and Edward O. Swanson, Who Goes to College? Minnesota Studies in Student Personnel Work No. 12. Minneapolis, 1962. 56 p.

This specialized report describes a project that took advantage of the fact that in Minnesota since 1928 a college aptitude test, and usually an English test, have been given state high school students. Average scores for samples of high school students and university freshmen at large and in particular colleges were compared for the period 1936 to 1959 to determine what changes in ability of freshmen appeared. Although the percentage of high school graduates has increased, the average freshmen of 1959 were not markedly different in terms of aptitude from freshmen of 1938.

4. Bloom, Benjamin S., and Frank R. Peters, The Use of Academic Prediction Scales for Counseling and Selecting College Entrants. New York, Free Press of Glencoe, 1961. 136 p.

Directed to counselors and admissions officers this report describes a study designed to increase the precision of academic prediction based on secondary school grades. To minimize variations in grades resulting from differences in standards from teacher to teacher and school to school, the authors constructed tables establishing correlation between secondary school grades and college grades, adjusted grades for institutional variation and found predictability increased. After describing their work in detail and tabulating their data, the authors consider the implications of their findings. Outstanding to them is the need for research on the criteria and improvement of grading in schools and colleges.

5. Clifford, Paul J., and Joshua A. Fishman, "The Impact of Testing Programs on College Preparation and Attendance." In The Impact and Improvement of School Testing Programs, p. 82-102. The Sixty-Second Yearbook of the National Society for the Study of Education. Chicago, University of Chicago Press, 1963.

In a chapter written for "individuals who are immediately concerned with the use and interpretation of data derived from college-selection testing programs," the authors give nine generalizations and three recommendations regarding the effectiveness and proper use of tests. The generalizations are supported by discussion informed by knowledge of the status of research in the field, but the authors do not make extensive references to studies. Among the points they make are these: college-selection testing programs promote equality of opportunity, they are not inherently biased against certain subcultural groups, they do not reward conformity or favor the test-wise student, they need not produce a homogeneous student group nor should they stratify colleges on a prestige scale. Speaking of the impact of testing on schools, the authors say testing programs can motivate teachers and students away from desirable educational goals and the data from tests can be misused. The recommendations call for treating data professionally, and stimulating communication among testers, students, test makers, and the public as a means of ensuring proper use of college-selection tests.

6. Committee on School and College Relations, Admission to American

Colleges: Summary of Policies and Procedures. Sixth Report. New York, Educational Records Bureau, 1964. 27 p.

The Committee on School and College Relations has conducted six surveys of college admission practices since 1929. The Fourth Report published in 1942 reported college reactions to a number of proposals to liberalize admissions practices. The Fifth Report in 1953 covered similar recommendations and extended the survey to selected secondary schools. The Sixth Report summarizes replies of over 500 college admissions officers to a survey which partly replicated the preceding study. The consistent areas of inquiry in the three reports have concerned the use by colleges of personal characteristics as criteria in judging applicants, the use of comparable tests and school records in admission, the character of curricular requirements, the process of selection itself, and communication with secondary schools. The significant trends noted in the most recent report point to the fact that there is greater attention to personal qualities in admission practices today than there was 10 years ago. More than three-fourths of the colleges use CEEB or ACTP tests in combination with school records. On records colleges are willing to allow for differences among schools and to accept ranking in terms of quarter, fifth, or tenth of class in which individuals fall. While some practices are flexible, most colleges say they have a fixed pattern of secondary school requirements, and trends toward changes are hard to discern. Transcript of marks, principal's or counselor's recommendation, aptitude test scores, and rank in class seem to be employed in that order of importance as the combined criteria for admission to most colleges. More than half the four-year colleges say they report first-semester grades back to students' high schools, but beyond that there is no uniform practice of communication with schools regarding their graduates. Over the period of the three committee reports there has been a trend toward handling applications more flexibly, but college expectations regarding secondary schools seem fixed. This report is written in summary form for a general educator's audience. The detailed statistical data are available for professional use on request.

7. Danskin, David G., and Donald P. Hoyt, "A Study of Some Potential Selective Admissions Criteria." College and University, vol. 36, p. 68-78. Fall, 1960.

This article reports for an audience of professional admissions officers a study at Kansas State University that investigated the efficiency of various admissions criteria at rejecting students who would drop from college with grade-point averages below 1.7 and admitting students who would maintain a grade-point average of at least 1.7. Samples of students were drawn from the freshmen entering in the fall of 1965. The criteria studied included various combinations of preadmission data such as high school rank, ACE Psychological Examination, and special aptitude tests; the post-admissions data consisted only of the first-semester grade-point average. The conclusions of the study show post-admissions criteria are most effective in identifying students who will drop out and students who will persist. The most effective pre-admissions criteria seem to be a minimum combination of high school rank in the upper half and an ACE score or aptitude test score in the 50th percentile or higher. The results point toward the possibility of provisional admission that would require students to earn a pre-determined grade-point average at the end of the first semester.

8. Davis, Junius A., "Nonintellectual Factors in College Student Achievement." In From High School to College: Reading for Counselors, p. 72-81. New York, College Entrance Examination Board, 1965.

Davis summarizes the findings on validity of predictors for an audience of pre-college counselors. He observes promising developments in test construction, the transactional approach, and identification of criteria employed by faculty in judging students. As yet, however, Davis says, useful nonintellectual measures are not generally available. Until such measures are available he recommends that counselors do their best to help individual students become aware of the real nature of different colleges. The presentation is nonspecialized, directed toward a busy practitioner.

9. _____________, "What College Teachers Value in Students." College Board Review, No. 56, p. 15-18. Spring 1965.

This article summarizes for the general audience recent studies by ETS of faculty evaluation systems and their relation to performance measured by SAT and course grades. Faculty at eight selective institutions were asked to rate on a list of traits developed by ETS samples of students they had observed at least one term. Traits denoting intellectual quality and approach to work seem to have a high relationship to grades, while character traits, peer relationships, and personal adjustment show little relationship to academic achievement. Moreover, the faculty at large seemed to indicate students as desirable to the institution on the basis of grades. The conclusion is that it is unlikely that prediction of academic performance would be improved by augmenting traditional admissions criteria with measures of additional traits.

10. Duggan, John M., "Field Testing a Central Prediction Service." College Board Review, No. 49, p. 12-15. Winter, 1963.

For a general audience of educators this exposition describes field trials to devise prediction formulas that capitalize on data regarding secondary school grading standards which can be shared among colleges in a given region. Predictive information will be returned to counselors to provide secondary schools with more effective means to advise students. The project attempts to implement the research of Benjamin S. Bloom and Frank R. Peters, which demonstrated an improvement in predictability resulting from adjusting for differences in grading standards among schools and colleges.

11. Fishman, Joshua A., "Some Social-Psychological Theory for Selecting and Guiding College Students." In Nevitt Sanford, ed., The American College, p. 666-89. New York, John Wiley and Sons, 1961.

Writing for a professional audience, Fishman observes that despite the large body of research on college selection it can all be summarized as showing that the usual predictions of college success are a student's high school grades and his score on a scholastic aptitude test. Personality tests added to the prediction battery contribute little to prediction because high school records are themselves already indices of how closely a student's personality agrees with the model of the middle-class academic world. To clarify prediction procedures Fishman offers a summary of nine strategies for prediction criteria. The strategies recognize student changes and changes between high school and college environment as the focus for predictive criteria. The "context of individual and environment, of predictors plus contingencies" is the area where meaningful research is needed.

12. ____________________, Ann K. Posanella, "College Admission-Selection Studies." Review of Educational Research, vol. 30, No. 4, p. 298-310. October, 1960.

This review covering research during the years 1955-59 is directed to professionals. The authors note a great increase in prediction tests. Most studies are concerned with making intellective predictors approximate intellective criteria, but "the search for non-intellective predictors was continuous," though usually unrelated to a theoretical foundation. Another trend noted by the authors is toward research on differential prediction of specific grades in specific curriculums. In concluding their survey, the authors comment that selection and admission is a field in which operational routine has developed more fully than has concern for criteria and educational goals. For that reason they welcome increased interest by psychologists and sociologists in higher education, for the new researchers can reduce the imbalance toward utility "by anchoring selection and guided admission in the philosophy of education at one end and in social science theory and methods at the other."

13. Fricke, Benno G., "The OAIS Test and Testing Program." The Superior Student, vol. 7, No. 2, p. 44-50. March-April, 1965.

This article briefly describes for admissions officers and others the Opinion, Attitude, and Interest Survey (OAIS) and summarizes research conducted by colleges that have used the test. When the test is combined with the standard indicators of student quality there is an appreciable gain in accuracy of prediction.

14. Hauser, Jane Zech, and Paul F. Lazarfeld, The Admissions Officer in the American College: An Occupation Under Change. New York, College Entrance Examination Board, 1964. 127 p.

This research monograph describes to an educational audience significant developments regarding the professionals involved with school-college transition. Questionnaires completed by admissions officers of 887 colleges (68 percent return) elicited findings such as: the larger, selective colleges tend to have specialists as admissions officers; directors of admission come from slightly higher socio-economic backgrounds than do registrars; admissions officers spend more time interviewing students and visiting schools and less time on administrative work than do registrars. The general conclusion is that a specialized profession of admissions officers is evolving. The new specialists see themselves as part of the administration rather than faculty and strive to increase the extent of their authority as they expect to make admissions work a career. Technical data is analyzed and presented in tables.

15. Heil, Louis M., "Scholastic and Personality Variables Associated with Acceptance to and Success in the Brooklyn College Scholars' Program." The Superior Student, vol. 7, No. 2, p. 34-40. March-April, 1965.

This is a report for professional admissions staff of a comparison made between 46 students who entered the Scholars' Program directly from high school and the regular freshman population from the standpoint of high school average, SAT, and certain variables from the Manifold Interest Schedule. The latter instrument is outlined and the findings from its application are summarized as showing that students admitted to the Scholars' Program are more self-sufficient, have greater power needs, and are more oriented toward inquiry than other students. In predicting success within the Scholars' Program five personality variables are found to be more effective than traditional academic predictors.

16. Lavin, David E., The Prediction of Academic Performance: A Theoretical Analysis and Review of Research. New York, Russell Sage Foundation, 1965. 17 p.

In this valuable book the author covers nearly 300 sources published from 1953 to 1961 in reviewing research on the efforts to predict academic performance by measurement of intellective and non-intellective factors and sociological determinants. Directing his study toward researchers as well as a broad educational audience, Lavin evaluates the various approaches to prediction in terms of theory and method and suggests directions for future research. The general findings of the review show that high school academic record is the best single predictor of overall grade point average; that a relationship between personality characteristics and academic performance is not easily demonstrated, perhaps because the social setting of performance has not been used as a variable; and that socioeconomic status "summarizes a variety of factors that are related to academic performance." For the future, Lavin urges special study of criteria. Grades alone need not be the goal of education. More meaningful criteria of performance need to be conceptualized for use in admissions, and the author suggests they may also be used in institutional research to determine how schools and colleges can adjust their organization and methods to foster desired performance.

17. Linn, Robert L., and Junius A. Davis, Correlates of Academic Performance of Community College Students in Career of Transfer Programs: A Pilot Study. College Entrance Examination Board, Research and Development Report No. 2. Princeton, N. J., Educational Testing Service, 1966. 39 p.

The authors report to a specialized audience the procedures and results of a study they undertook to test the usefulness of certain predictive techniques in the context of the community college. The sample of students included all full-time freshmen entering Bronx Community College in the fall of 1965. For these students the "traditional" predictors, SAT scores and high school grade averages, were obtained along with data from promising instruments such as the Background and Experience Questionnaire, the Experimental Comparative Predition Battery, the Academic Interest Measure, and the Personal Values Inventory. When "traditional" predictors were correlated with first-semester grade-point averages they were found to have moderate validity for students in occupational training but zero validity for students in the academic transfer program. The authors suggest this apparent paradox may result from a selective admission policy and apparent self-selection of students with records that enable them to enter a four-year unit of the City University, but there appears a definite need to follow up this pilot study with research on prediction over a range of institutions as well as inquiry into the possibility that "SAT may be predicting in the career programs as existing criterion rather than a proper one." In other words, job success can be more important than performance that instructors may measure by conventional standards. Several of the experimental predictors seemed to give tentatively good results in certain career programs. They were especially sound in the nursing program in which the faculty had homogeneous grading practices, and they were least valid in the technologies in which there is a greater heterogeneity of courses. Again the implication is that "the criterion may indeed be an all important element in studies such as this."

18. Michael, William B., Robert A. Jones, Anna Cox, Arthur Gershon, Marvin Hoover, Kenneth Katz, and Dennis Smith, "High School Record and College Board Scores as Predictors of Success in a Liberal Arts Program During the Freshman Year of College." Educational and Psychological Measurement, vol. 22, No. 2, p. 399-400. Summer 1962.

Representative of many prediction studies, this one examines the validity of high school grade-point average and SAT scores relative to a criterion of grade-point average earned by 209 men and 233 women during their 1960-61 freshman year at the University of Southern California. For both sexes, high school averages were more predictive of college success than part of total scores of the SAT.

19. Sharp, Bert L., "College Achievement: Its Relationship to High School Achievement Experiences and Test Scores." Personnel and Guidance Journal, vol. 41, p. 247-50. November, 1962.

The author reports to a professional audience on the validity of placement tests. A base sample of 395 was selected from freshmen entering the University of Florida in 1958. Data as to the numbers of years of high school study in English, social studies, science, and mathematics were collected along with placement test scores and first-year college grades in those areas. The chief findings are that the number of years a student studies a particular subject has no significant effect on the grade he makes in the subject during the first year of college, but there is an evident relationship between placement test scores and college grades. The implication for guidance practice is obvious, but there is also implied an argument against the common practice of requiring long periods of study in a subject as an assurance of college success.

20. Stein, Morris I., Personality Measures in Admissions. Research

Monograph No. 5. New York, College Entrance Examination Board, 1963. 69 p.

Researchers and practitioners will find this methodological survey useful. Stein distinguishes in the literature four approaches to the prediction problem: the pilot experience, the social or demographic approach, the psychological approach, and the transactional approach. Stein concludes that the transactional approach will be most fruitful because it assumes that college success, as all behavior, is a function of the relationship of individual and environment. The approach offers difficulty in developing models and getting data, and Stein recommends establishing a research clearinghouse. He also suggests areas for research in individual psychology and the college environment. A bibliography is appended.

II. TALENTED STUDENTS

21. Angoff, William H., "The College Board and the Superior Student." The Superior Student, vol. 7, No. 2, p. 10-15. March-April, 1965.

Angoff offers professionally concerned readers a summary of research completed by ETS and others showing that SAT is adequate to select superior students and does not discriminate in favor of mediocrity.

22. Bridgman, Donald S., "When the Loss of Talent Occurs and Why." In The Search for Talent: College Admission #7, p. 30-45. New York, College Entrance Examination Board, 1960.

In this colloquium paper Bridgman reviews national educational statistics and the data of studies made in individual states by previous researchers in order to determine reasons why able students do not enter or do not complete college. Data are summarized in tables relating to sex, locality, and age groups. Economic reasons for failing to attend college or for ability to learn are prominent. Family backgound of education, residence in large cities, and college-bound peers encourage college attendance. Dropping out of college seems determined by entry into military service, lack of interest, and financial need. The survey was limited to the ability range characteristics of the top 30 percent of high school graduates, and a related finding is that more than half of college entrants are drawn from high school graduates below that ability level. Data is tabulated and discussed for an audience of educators.

23. Casserly, Patricia L., "What's Really Happening in Advanced Placement--II." College Board Review, No. 59, p. 16-22. Spring, 1966.

This report of an ETS study of practices regarding advanced placement in 63 selected colleges and universities shows that there is insufficient communications about advanced placement within colleges and between candidates and colleges. Evaluating the program's impact on higher education, the researchers found that admissions officers are giving special attention to advanced placement candidates and generally want more advanced placement students; college faculty feel the program might upgrade secondary curricula. The program was cited as a prime factor in the initiation of honors programs in six institutions. Most students in the program are judged by professors and administrators to be eager, disciplined, and confident. Only 48 percent of the 23,145 students taking examinations in May, 1963, were awarded advanced placement, credit, or both.

24. Cohen, Joseph W., ed., The Superior Student in American Higher Education. New York, McGraw-Hill, 1966. 299 p.

This history of honors programs includes a chapter by Paul Heist on research. While much attention has been given to selection, Heist concludes that "the attitudes, values, interests and basic personality characteristics of students. . .remain largely unexplored."

25. Ekstrom, Ruth B., "Early Admission to College." Journal of Educational Research, vol. 57, No. 8, p. 408-12. April, 1964.

The article is a summary for a professional audience of the final report of an ETS survey of participants in the Early Admission to College Program sponsored by the Fund for the Advancement of Education, 1951-59. The early admissions scholars totaled 1,312. They attended 12 colleges. For purposes of study a comparison group was chosen numbering 1,403 students with approximately the same aptitude as the scholars but who had completed a normal high school program. The findings of the program are that the early admission scholars "made normal progress through college, achieved grades as high or higher, were as well adjusted, and were more likely to attend graduate school than students of comparable ability, who entered college after completion of high school and at a more typical age. The colleges felt that early admission had been decidedly wise for nearly 80% of the scholars who were graduated." Data are given in tables.

26. Goldberg, Maxwell H., and Norman D. Kurland, "The Able Student." In Samuel Baskin, ed., Higher Education: Some Newer Developments, p. 104-27. New York, McGraw-Hill, 1965.

A general summary is provided of the honors movement and other special arrangements for able students.

27. Radcliffe, Shirley A., Advanced Standing. New Dimensions in Higher Education No.8. Washington, U. S. Office of Education, 1961. 24 p.

Drawing on published materials, College Board information, and consultation with individuals in the field, the author has generalized for a general audience of educators the experience of the advanced placement program and various plans allowing superior high school students to take courses in nearby colleges. Among the advantages of the programs is the improved communication between high school and college teachers who meet to plan programs. The programs benefit students directly by requiring individualized planning. There is great diversity among institutions regarding their policies, however, and as a result there is a lack of evaluative data that would answer such questions as, "What is the effect on the total academic program?"

28. Vroman, Clyde, "Let's Get Together on Advanced Placement." College Board Review, No. 50, p. 17-19. Spring 1963.

An article for a general educational audience adapted from a report presented at the annual College Board Conference on Advanced Placement in English, June 22, 1962. A survey conducted by the authors of the 50 secondary schools having the largest number of students taking the English test in 1961 and of 80 of the colleges receiving the largest number of test grades in 1961 discovered agreement that "advanced placement is producing a qualitative improvement in educational opportunities and experiences for able and ambitious students." At the same time there is evidence that colleges are slow in setting up administrative machinery to handle the program, and they are cautious about granting credit on advanced standing. The author strongly recommends more communications about the program between schools and colleges as well as a clearly defined procedure of evaluation of examinations.

29. Wilcox, Edward T., "Seven Years of Advanced Placement." College Board Review, No. 48, p. 29-34. Fall,1962.

The director of the program of advanced standing at Harvard reviews the program to date for a general audience of educators. In seven years the competence of students in the program increased, while the number applying for it has leveled off. Contrary to popular myth, advanced placement students do quite well in advanced courses and upper division work. They are not tragically beyond their depth as some warned they would be. Even though the program is accomplishing its purpose to provide for acceleration of the B.A. course of study, it appears wise to counsel students to remain in undergraduate college a full four years in order to get greater distribution of courses, sample new fields, and test their intellectual commitment.

III. DISADVANTAGED STUDENTS

30. Bloom, Benjamin S., ed., Research Problems of Education and Cultural Deprivation. Research Conference on Education and Cultural Deprivation. Chicago, June 8-12, 1964. Supported by Cooperative Research Program, U. S. Office of Education.

This report to the educational community, and particularly to research workers, outlines areas and specific problems which merit immediate intensive study. The volume describes the dimensions of the problem and strategies of research. Problems for research are listed under seven rubrics such as "Home Environment," "Personality and Motivation," "School Program," and "Personnel," "Curriculum," etc. Under the latter heading a study of the effects of a "guaranteed future" is proposed. This would involve longitudinal research on a group of children who by third or fourth grade are guaranteed college scholarships, provided they pass their work. Tufts University has agreed to guarantee scholarships for 20 to 25 children.

31. Brown, Walter M., and Roger D. Russell, "Limitations of Admissions Testing for the Disadvantaged." Personnel and Guidance Journal, vol. 43, p. 301-4. November, 1964.

In an article for professional counselors, the authors describe their effort to discover factors associated with academic success of individuals who graduated from North Carolina College at Durham between 1954-59. The median score on ACE tests of 66 students eventually graduating with honors was at the 14th percentile, and only 35 students admitted to the college between 1954-59 scored above the 50th percentile. Only eight of the latter, however, were honor students. The college milieu is not substandard, so the subsequent success of low scoring entrants was not predictable on the standard tests. By questionnaire and review of records the authors found graduates attributed success to personal qualities, influence of counselors, teachers, and parents, and determination to overcome disadvantage. The implication of the author's examination is that admissions staff must become personally acquainted with applicants' assets and use provisional admission and systematic guidance liberally.

32. Coleman, James, and Ernest Campbell, Equality of Educational Opportunity. Washington, U. S. Office of Education, 1966. 737 p.

In the fall of 1965 the U. S. Office of Education carried out an extensive survey of the public schools in order to assess the availability of educational opportunity to minority groups. The relationship of various home, community, and school factors to education was examined. A part of the study dealt with higher education. A major finding was that differences in schools account for a relatively small part of the differences among students. Teacher quality and characteristics of the student body account for more of the variation. Differences among schools influence Negro pupils more than home background, while home background is more influential than the school for white pupils. Extensive charts and tables are included.

33. Davies, Vernon, and Stan Berry, "The Programs and Differential Characteristics of 1962 Special Admissions Students at Washington State University." College and University, vol. 40, p. 264-70. Spring, 1965.

This article is a report to the general educational community on a special program. In the fall of 1962, 183 students were admitted to Washington State University with less than the required 2.5 GPA. Psychological tests and interviews were used to select the special students from more than 800 who applied but did not meet admissions standards. Seventy-nine of the original 185 students completed three semesters at WSU with an accumulated GPA of at least 2.0, so the program was judged successful. In an effort to determine what attitudes related to achievement in this special group, the students were administered a questionnaire. The accumulated data shows the positive factors related to achievement are a feeling that college success is very important, knowledge that parents had long planned for the student to attend college, and plans for a professional career or activity in which good grades are considered a prerequisite.

34. Froe, Otis D., "Educational Planning for Disadvantaged College Youth." Journal of Negro Education, vol. 33, p. 290-303. Summer 1964.

In this contribution to the journal's yearbook number on "Educational Planning for Socially Disadvantaged Youth," the author brings together data on the subcultural background of disadvantaged students and the findings of research he has directed at Morgan State College. On this basis he indicates skills and behaviors which disadvantage certain students, especially Negroes from inner city schools. Disadvantaged students, he finds, are especially weak in the verbal and quantitative skills which are highly valued in academic environments. In addition, disadvantaged students often lack some of the noncognitive characteristics of personality that college faculty appreciate. To bring the disadvantaged learner into congruence with collegiate environment is definitely possible, the author argues, for disadvantage is a behavioral designation, not an index of "native intelligence." Among the implications for educational planning, the author sees need for greater structuring of learning experiences over a long period of time, appropriate models for students' acculturation, specific remediation of verbal skills, etc. This article is very useful as a presentation for a general audience of educators of the current best understanding of the characteristics of disadvantaged students.

35. Gordon, Edmund W., "Opportunities in Higher Education for Socially Disadvantaged Youth." In From High School to College: Reading for Counselors, p. 53-61. New York, College Entrance Examination Board, 1965.

In a paper written for high school counselors, Gordon summarizes some of the negative and positive characteristics of disadvantaged youth which he and others have identified; describes the findings of Clark and Plotkin, CEEB, and NSSFNS regarding academic performance of disadvantaged students; and reviews current collegiate programs for disadvantaged students. In conclusion he recommends that counselors adopt an attitude of optimism and that they try to discover opportunities in community colleges.

36. Kendrick, S. A., "College Board Scores and Cultural Bias." College Board Review, No. 55, p. 7-9. Winter, 1964-65.

The author writes for readers concerned about eliminating unintentional and unrecognized barriers before minority groups specifically in admissions. He advises suspicion of error whenever test scores of culturally different students are low, but he denies the likelihood of bias in the tests. Correlation studies in predominately Negro colleges show SAT scores correlate with grades in the usual way. If candidates from minority cultures have marginally low test scores, Kendrick suggests investigation of candidates' environment. If colleges believe that removing the candidates from an impoverished environment will help them improve, then colleges are obliged to deliberately provide a nurturing environment of counseling and patience.

37. Society for the Psychological Study of Social Issues, "Guidelines for Testing Minority Group Children." Journal of Social Issues, vol. 20, p. 129-45. April, 1964.

This article admonishes school personnel to use trained staff and to exercise caution in administering standardized educational and psychological tests to students of disadvantaged status. By reference to research the article establishes the critical difficulties in the use of tests: "(1) they may not provide reliable differentiation in the range of minority groups' scores, (2) their predictive validity for minority groups may be quite different from that for the standardization and validation groups, and (3) the validity of their interpretation is strongly dependent upon an adequate understanding of the social and cultural background of the group in question."

38. Wilkerson, Doxey A., "Prevailing and Needed Emphasis in Research on the Education of Disadvantaged Children and Youth." Journal of Negro Education, vol. 33, p. 346-66. Summer, 1964.

This article is intended to inform and persuade educators in general as much as to offer direction for future research. The author observes that most studies in the area have concentrated on modifying the characteristics of disadvantaged young people. While positive change in cognitive learning ability and emotional-personality development is desirable, Wilkerson points out that there is much less recognition of the need to change the schools cast in a middle-class mold as well as the society that permits the social situation of disadvantaged youth. A useful bibliography of about 200 selected research publications is included. The emphasis throughout the article and bibliography is on disadvantaged students before college, so the relevance to the present topic is implicit.

IV. GUIDANCE

39. Cooley, William W., "A Computer-Measurement System for Guidance." In Ralph L. Mosher, Richard F. Carle, and Chris D. Kehas, eds., Guidance: An Examination, p. 159-73. New York, Harcourt, Brace and World, 1965.

In this paper, originally presented to an Institute for Administrators of Pupil Personnel Services, Harvard, July 30, 1964, the author explains in detail the applicability to educational and vocational planning of a system of computerizing data regarding students' test scores, biography, and school and career plans. By gathering data from a large national sample it would be possible to compare a students' plans with a norm and determine the degree of risk in the students' future plans. "The task of the guidance program, then, given this information, would be to plan experiences for such students which would give them more information about themselves in relation to those plans." The experience offered the student could also be programmed. Besides his exposition of computerized guidance, the author states the theoretical basis underlying it: "people who behave similarly have similar personalities"; and he illustrates the type of analysis that would be required for effective guidance.

40. __________, Career Development of Scientists: An Overlapping Longitudinal Study. Cambridge, Mass. Graduate School of Education, Harvard University, 1963. 185 p.

This study was undertaken in 1958 to investigate the types of decisions and factors influencing the movement of boys into scientific careers. A sample of 700 boys, from five groups overlapping according to school years and drawn from five school systems and six colleges in the Cambridge area, was administered a battery of aptitude and personality tests. The results are analyzed in this technical report. Of importance here is the third chapter devoted to "The High School to College Transition." A chief finding is that many students in eleventh and twelfth grade decide not to go into science, but almost none decide to enter scientific study at that time, so junior high school is a "recruitment plateau" of potential scientists. High scholastic ability and introverted personality traits appear to be related when students stick with their decision to become scientists. A general implication of the study is that the best predictions about career choice will be made by considering multiple scores and various types of information in combination, and these predictions and subsequent guidance must come early in a student's schooling.

41. Eells, Kenneth, "A Required Pre-Admissions Testing and Interviewing Program for Lowest-Quarter Students: An Evaluation After Two Years." College and University, vol. 33, No. 1, p. 52-64. Fall, 1961.

The author gives to an audience of professional admissions personnel a survey of the results of a program at the University of Illinois, Chicago Undergraduate Division, that required applicants from the lowest quarter of their high school class to take a battery of tests and to have an interview in which they were told their chances of success and offered help in formulating appropriate and realistic educational plans. The survey disclosed no significant changes since the inception of the program in attrition between applicants and enrollments, nor was there change in the proportion of lowest quality students finishing their semester or year in good standing. Possibly the program caused a lower voluntary withdrawal rate, as students may have been less willing to give up until forced out by their low grades. The evaluation study "dealt primarily with the usefulness of the program for admissions and administrative purposes, and not with its usefulness for more purely counseling purposes."

42. Ehling, William P., and Harold D. Nolder, "Complexity, Variability, and Lack of Information in Student Transition from Secondary School to College." The High School Journal, vol. 49, p. 363-74. May, 1966.

This important article represents an effort to persuade researchers and practitioners to take a significantly new approach to student movement from high school to college. Applying their research interests in communication and decision theory and some of the findings of Syracuse University's CODE (Communications-Decision) project to the transition problem, the authors describe the need for new research designs. In practice, administrators assume that a guidance-selection theory exists to explain college admissions, but Ehling and Holden maintain that the consensus of research shows that a low yield in predictive power of tests and grades indicates many variables control student achievement, and institutions are obliged to recognize the complexity of their system. With all the diversity among students and colleges we are left with such unanswered critical questions as what influences students to go to particular colleges, what information do they use in deciding, and how can they get enough information to make an optimal fit between themselves and a college? Research oriented to analysis of this operation takes the view that a student is "truly a decision-maker" who requires understanding as such and aid in developing a communications net to make his choosing of a college more efficient.

43. Flanagan, John C., John G. Daily, Marion F. Shoycoft, David B. Orr, and Isadore Goldberg, A Survey and Follow-Up Study of Educational Plans and Decisions in Relation to Aptitude Patterns: Studies of the American High School. Technical Report to the U. S. Office of Education, Cooperative Research Project No. 226. Pittsburgh, Project TALENT Office, University of Pittsburgh, 1962.

The chapters in this technical report prepared by Isadore Goldberg on "Guidance Resources and Guidance Programs" pertain to school-college transition. The study of guidance resources and counselors was based on a random sampling of public senior high schools. The estimated study population is between 18,000 and 19,000 counselors. Many of the findings serve to define members of the occupation as to age, sex, education, and experience. Regarding duties, "the counselors feel their greatest contribution is to help students make effective use of their abilities." Most of the counselors' time is spent working on an individual basis. Goldberg's chapter on guidance programs reports results of a questionnaire that gathered preliminary data to show 90 percent of schools in large cities and the Northeast had guidance programs, while in the West and Southwest the percentages ranged from 48 percent to 95 percent. Guidance staff emphasize academic problems and college attendance and give less attention to vocational problems. Tables throughout the report present data for specialists. Texts summarize data and describe research for nonspecialists.

44. Heist, Paul, and Harold Webster, "A Research Orientation to Selection Admission and Differential Education." In Hall T. Sprague, ed., Research on College Students, p. 21-40. Boulder, Colo. Western Interstate Commission for Higher Education and the Center for Higher Education, Berkeley, Calif., 1960.

By reviewing research and stating its implications, the authors argue for increased collegiate flexibility. Their presentation was originally made to college administrators. The authors report that by means of personality measures, profiles of student bodies and subgroups within them can be drawn to show differences among students despite common background. Because of this diversity they assert that there is reason to use criteria of selection that will provide a student mix appropriate to the peculiar environment of each college. This means, then, that institutional objectives can and must be reviewed.

45. Hills, John R., "College Expectancy Tables for High School Counselors." Personnel and Guidance Journal, vol. 42, No. 5, p. 479-83. January, 1964.

This report describes a technique that has been in use in Georgia since 1959 for constructing an expectancy table for predicting college success. The virtue claimed for the table is simplicity as it depends only on aptitude scores and high school averages. The results of calculations by means of the table are in the form of probabilities, i.e., a student has, say, "70 chances out of 100 of making a C or better average but only 15 chances out of 100 of making a B or better average. However, 98 out of 100 students like her are admitted to the freshman class." Thus, a student may choose a college to fit.

46. _____________________, "Admissions Procedures that Make Sense." In Research in Higher Education: Guide to Institutional Decisions, p. 16-24. New York, College Entrance Examination Board, 1964.

A paper presented to a conference of college administrators surveys research on biographical data, achievement tests, and adjustment of high school grades for predictability, and reports that these methods offer pitfalls. A single aptitude test and a single average high school grade are adequate for use in a predictability formula, according to the author. To aid in guidance, colleges then should provide schools with tables showing probabilities of students achieving certain grades according to their standings in the admissions formula. With this tool counselors can estimate students' potential and also allow the student to express his values in choosing whether an "A" at one college is less appealing to him than a "B" or "C" at another college. To make this sensible procedure work, the author says it will require sound training of counselors, cooperation among schools and colleges, as well as good research in college admissions offices.

47. Trent, James W., "A New Look at Recruitment Policies." College Board Review, No. 58, p. 7-11. Winter, 1965-66.

For a general educational audience, Trent summarizes the data relating to college entrance, student expectation, and student development gathered in a five-part study of 10,000 young adults from 37 high schools in 16 communities. The data show that "while ability is related to educational development in college, socioeconomic status, aspects of motivation, attitudinal disposition, and family environment are even more related to entering and persisting in college." Large numbers of youth appear to enter college without realistic knowledge of what to expect and seem to get little help in that regard from counselors. On the basis of these findings, Trent believes we face the challenge to make college recruitment "a phase of the developing process of education, not merely the self-contained procedure of screening candidates who happen to apply at a given college" and "to recruit students with their individual needs and personalities in mind." Help toward these ends, Trent concludes, will come from the efforts of Astin and Pace to develop institutional profiles to be provided to counselors and educators.

V. DELAYED ATTENDANCE STUDENTS

48. D'Amico, Louis A., and Louis G. Schmidt, "The Comparative Achievement of Veterans Admitted to College on the Basis of General Educational Development Tests and a Selected Group of Other College Students." Journal of Educational Research, vol. 1, p. 551-56. March, 1957.

This article presents findings for a general educational audience of an investigation conducted of scholastic achievement of veterans admitted to Indiana University, 1946-50, on the basis of high school equivalency examinations (the General Education Development test battery). There were 478 GED students and 307 non-GED compared in this study on the basis of credit-point ratios and variables such as time lapse between last school attendance and college entrance, size of high school and hometown, etc. Of importance here were these findings: the GED group tended to have significantly lower mean unweighted credit-point ratios than the non-GED group; they also tended to have lower psychological examination raw scores than the non-GED students; "the GED and the non-GED students who had been out of school six years or more prior to entering college earned the highest mean unweighted credit point ratios of their respective groups." The conclusion of the investigators is that these and other findings show GED students did well in college work, and therefore college admissions based on a high school equivalency test are not hazardous.

49. Layton, Elizabeth N., "Academic Achievement of Veterans in Colleges." Higher Education, vol. 4, No. 3. October 1, 1947.

An annotated listing of 12 selected items published in 1946 and 1947 dealing with research on veterans' performance in college.

50. Lauro, Louis, and James D. Perry, "Academic Achievements of Veterans and Non-veterans at the City College of New York." Journal of Educational Psychology, vol. 42, p. 31-42. January, 1951.

The population sample for this study was students enrolled as lower seniors in the fall semester of 1948 at City College. This report is useful for the present purposes, however, because it provides professional readers with a survey and evaluation of prior research. The results of the study show veterans demonstrating a preference for technological studies and doing better, as measured by grade-point average, in those studies than nonveterans in the control group despite a lower mean high school average and a lower mean score on a psychological examination. Veterans taking science or social science courses did not equal this achievement.

51. Wientge, King M., and Philip H. DuBois, Factors Associated with the Achievement of Adult Students. St. Louis, Washington University, 1964. 139 p.

This is the technical report of Cooperative Research Project No.

1338 of the U. S. Office of Education. Biographical information results from a battery of aptitude, interest, and motivation tests, counselor-interviewed forms, and scores on achievement tests were gathered from volunteer students enrolled in evening courses at Washington University in two semesters, 1962-63. A total of 386 cases were completed and usable for intensive study. The results show that the biographical factor most positively related to academic grades of adult students seemed to be "maturity" as shown in raising a family, achieving good income, supervising others, etc.; and that traditional tests of aptitude were useful predictors of success, much more so than counselors' predictions. The study demonstrates the efficiency of a screening system in admissions for adult education. It should stimulate additional research on adult education.

VI. FACTORS AFFECTING COLLEGE SELECTION

52. Astin, Alexander W., Who Goes Where to College? Chicago, Science Research Associates, 1965. 125 p.

This report presents the findings in a study of the freshmen who entered 248 colleges and universities in the fall of 1961. The presentation is directed toward a general educators' audience, but the valuable technical information is included in notes and appendices. The purpose of the study was to find out more about the characteristics of students who enroll at various types of institutions. Therefore, the researchers asked students to provide information on a questionnaire relating to their background, high school achievement, and future plans. With this information and some provided by the colleges--e.g., average high school grades of entering classes--six "freshmen input factors" were designated: intellectualism, aestheticism, status, leadership, pragmatism, and masculinity. Student bodies entering various types of institutions were found to vary greatly on these factors. On the basis of these factors the institutions can also be characterized, and thus the findings of the study offer potential usefulness in counseling college-bound students as well as in educational policy-making and research.

53. Beezer, Robert H., and Howard F. Hjelm, Factors Related to College Attendance. Washington, U. S. Office of Education, 1961. 42 p.

This report, intended for a general educational audience as well as readers wishing a technical presentation of data, presents findings of surveys in Arkansas, Indiana, and Wisconsin of factors influencing college attendance of academically talented students. The percentage attending college increases with class rank and ability. Limited finances were a factor in nonattendance, and those not attending college had a more practical orientation. Parental status, education, and attitude were influential. Peer influence appeared stronger than the influence of teachers and guidance staff in motivating students to attend college. Extent of urbanization of a community and the educational and income levels of its citizens were also important determinants of college attendance. The authors conclude that "lack of motivation is probably the greatest single deterrent to college attendance by capable youth" and that lack of funds is often involved in the lack of motivation. The authors also note the great waste of talent among minority groups.

54. Brookover, Wilbur B., ed., The College Student. New York, Library of Education, New York Center for Applied Research in Education, 1965.

These chapters, written for a general audience by several behavioral scientists examining American college students historically and with regard to contemporary changes, include: "Selection and Admissions Policies and Practices," by William B. Brookover, which shows the desirability of open admission policies to achieve the goal of maximizing collective as well as individual abilities; and "College Climates and Student Subcultures," by David Gottlieb, which develops a typology of students and relates student attitude to socioeconomic background and the colleges these students choose to attend. These chapters are useful summaries of literature but are not research reports.

55. Darley, John G., Promise and Performance: A Study of Ability and Achievement in Higher Education. Berkeley, Calif., Center for the Study of Higher Education, 1962. 191 p.

In studying the compatibility of students and colleges, Darley analyzed sample populations in Minnesota, Wisconsin, Ohio, and Texas. Diversity among institutions he found to be accidental rather than planned; moreover, socioeconomic factors rather than ability usually determine the distribution of students, and the result too often is incongruity between student and school. Clearly, Darley considers that our institutional resources require rationally planned use. This study provides much significant data on the relationship between the outcome of college careers and students' ability, sex, parental status, and occupational plans. A full presentation and technical discussion of data is directed to a professional audience.

56. Flanagan, J. C., F. B. Davis, M. F. Shoycoft, D. B. Orr, I. Goldberg, and C. A. Newman, Jr., The American High School Students. Technical Report to the U. S. Office Of Education, Cooperative Research Project No. 635. Pittsburgh, Project TALENT

Offices, University of Pittsburgh, 1964.

Project TALENT began in 1959 with these objectives: "to survey available talent . . ., to identify interests, aptitudes, and background factors . . ., to determine effects of lack of interest and motivation . . ., to identify factors affecting vocational choice; to identify predictions of creativity and productivity . . ., to determine the effectiveness of various types of educational experiences . . ., to study procedures for realizing individual potential." In the spring of 1960 a two day battery of tests was administered to approximately 440,000 ninth, tenth, eleventh, and twelfth grade students in 1,353 different schools of different types in different parts of the country. A probability sample was chosen consisting of students in 987 of these schools (approximately 5 percent of U. S. high school population). Six major publications have summarized the project and presented information gathered about the schools and students. Regarding school-college transition, the present volume presents findings to show that 42 percent of 1960 high school graduates entered college within a year. The National Science Foundation studies indicate 25 percent of boys and 6 percent of girls enter college later. A strong positive correlation appeared between academic aptitude level and college entrance. In general, the students entering college came from families that were more educated and affluent than families of students who did not go to college. The rate of entrance to college was highest in the Far West and Southwest and lowest in New England and the Central East. Tables and appendices present data of importance to specialists. The text provides a summary and interpretation for a larger audience.

57. Gottlieb, David, "Social Class, Achievement and the College-going Experience." The School Review, vol. 70, p. 273-86. Autumn 1962.

This report offers an educational audience some evidence to cast doubt on the common assumption that social class is the crucial variable in attitudes toward education. In the fall of 1960 a questionnaire was given to freshmen at two Midwestern institutions (one a large state university, the other a small private institution). Social class differences regarding the students' reported purpose in attending college seem apparent. Lower-class boys seek vocational training and higher-class boys seek a broad education, but these class differences are substantially reduced when the additional factor of academic achievement is introduced. Lower-class high achievers seek broad education in significant numbers. Other interesting findings show lower-class high achievers receive little encouragement from parents to attend college, which could be anticipated, yet they enrolled in college and often were encouraged to do so by teachers who recognized their potential. The general implication is that the influence of social class may be varied with students' membership in a subculture made up of those similar to them in academic achievement.

58. Herriott, Robert E., "Some Social Determinants of Educational Aspiration." Harvard Educational Review, vol. 33, p. 157-77. Spring, 1963.

The level of a youth's self-assessment relative to others and the level of expectations which significant others hold for his behavior are the variables that the author hypothesized for an intervening between social, economic, and intellectual characteristics and the youth's educational plans. To test the hypothesis, data were collected by a questionnaire administered to 1,489 adolescents in one public high school in western Massachusetts. The finding was positive. Educational aspiration did vary significantly with the students' level of self-assessment and level of expectation. The implication drawn by the author is that economic opportunity, while important, is less a need than is some means to provide disadvantaged students with a structured experience that would counter negative attitudes toward education in the family and encourage low aspiring youth to develop peer relationships with adolecents who have high educational aspiration. The technical presentation of data and analysis includes a discussion for counselors of how the data of this study can be used in guidance practice.

59. Kerr, William D., "Student Perceptions of Counselor Role in the College Decision." Personnel and Guidance Journal, vol. 41, No. 4, p. 337-42. December, 1962.

A questionnaire concerning college-bound seniors' perceptions of their decision to attend college and the counselor's role in it was completed by 1,350 seniors in 33 Iowa public high schools. The results show that 66 percent of the seniors see their parents' assistance as most valuable, and 37 percent perceive counselors as not having influenced their decision. The most useful function of a counselor is seen to be his providing information, and 88 percent of the seniors view the counselor as being helpful in some degree. Other items on the questionnaire show students feeling that vocational goals are most important in motivating their decision (cited by 83 percent). The author of this report for professional counselors sanguinely concludes that counselors should be reminded of the importance of other persons to students making college plans, and should seek to integrate the other persons into the decision-making process.

60. Medsker, Liland L., and James W. Trent, The Influence of Different Types of Public Higher Institutions on College Attendance from Varying Socioeconomic and Ability Levels. Berkeley, Calif., Center for the Study of Higher Education, 1965. 110 p.

A sample of 10,000 graduating seniors from high schools in 16 Midwestern and California communities was studied to observe possible relationships between the graduates' careers and, among other factors, the presence or absence of a public college in their community. The students' family status and attitude toward education is a pervasive influence. Some 55 percent of the group entered local public institutions, with those whose parents are in lower occupational levels predominating. Students from high ability groups and high socioeconomic standing tended to enter private colleges. Tabular data are presented in technical analysis for a professional audience. Follow-up studies will deal with changes in attitudes of the sample and the flow into and out of college over a four-year period.

61. Ramsey, Natalie Rogoff, "College Recruitment and High School Curricula." Sociology of Education, vol. 38, p. 297-309. Summer, 1965.

The author has reanalyzed the data gathered by ETS in a study of Background Factors Relating to College Plans and College Enrollment Among Public High School Students (Princeton, N. J., ETS, 1957) to determine how the movement of youth into college is affected by high school course offerings. Her presentation to a professional audience indicates that American high schools offer college preparatory courses to fewer pupils than those who declare an intention to go to college. The smaller high schools have fewer students in college preparation and more from other programs desiring to attend college than larger high schools. The implication of this finding is that "if all colleges required intensive preparation of all of their entering students, the number of recruits to higher education would decline radically" and a smaller number of high schools would send graduates on to college. Generally, students who elect college preparatory programs are of superior aptitude, so the programs operate as a selection device, but 25 percent of the students enrolling in college did not have a college preparatory program. If they are of lower aptitude, they are also disadvantaged by the lag in the supply of college preparatory courses relative to the demand.

62. Rolmmich, Herman, and John L. Schmidt, "Student Perceptions of Assistance Provided by Counselors in College Planning." Personnel and Guidance Journal, vol. 41, No. 2, p. 157-58. October, 1962.

Questionnaires completed during the last two weeks of school by the 2,719 high school seniors in attendance on the survey days in all of the San Diego city high schools and two San Diego county high schools show that parents rather than school people appear to students to be the significant group assisting them in selecting a college and making college plans. One out of 10 students receive help from counselors, one out of 20 from teachers, but one out of two received help from parents in making college plans. The authors of the report ask their specialist audience whether or not the survey results show effective counseling.

63. Stern, George G., "Student Ecology and the College Environment." In Research in Higher Education: Guide to Institutional Discussions, p. 35-52. New York, College Entrance Examination Board, 1964.

Using the concept of "personality needs and environmental press" as a basis for questionnaires to measure characteristics of 1,993 individuals in 32 colleges, the author and his associates found that colleges differ in the kinds of students they attract and the experiences they provide. The differences are familiar ones corresponding to general impressions of most observers of higher education. The original audience for this report were administrators of women's liberal arts colleges, who remain a distinct type, and their faculty and routine are clearly related to their peculiar characteristics. Extensive tabular data support the presentation.

VII. FINANCIAL AID

64. Eels, Walter C., and Earnest V. Hollis, Student Financial Aid in Higher Education: An Annotated Bibliography. Washington, U. S. Office of Education, 1962. 77 p.

A listing of descriptive, evaluative, and research writing on financial aid. The 451 entries are grouped according to types of aid offered and are cross-indexed. An effort was made "to include numberous publications which have appeared in some of the popular magazines of national circulation. Others will be found, however, which are chiefly of value to counselors and administrators."

65. Schrader, W. B., and Norman Fredericksen, "College Achievement

and the GI Bill." School and Society, vol. 73, p. 295-97. May 12, 1951.

This article summarizes for a general educational audience the results of a study of college achievement of veteran and nonveteran students in 16 diverse colleges and universities. The study, which was conducted by ETS and supported by the Carnegie Corporation, was especially concerned with comparing students who could have gone to college with those who could not have gone to college at all without the financial aid of the G. I. Bill. A questionnaire elicited the fact that on the average one-fifth of the veterans in a typical freshman group would not have gone to college without the G. I. Bill. Achievement was measured by an adjusted average grade (based on the extent to which the grade point exceeds or falls under the measured aptitude of the subject). "It was found that these students whose college careers were made possible by the GI Bill earned on the average slightly higher Adjusted Average Grades than did the rest of the veteran students." The students also tended to be older and were more likely to be married. The authors assert, therefore, that the evidence "supports the view that a substantial pool of effective academic talent could be tapped by lowering economic barriers to higher education."

66. West, Elmer D., Financial Aid to the Undergraduate: Issues and Implications. Washington, American Council on Education, 1963. 125 p.

The author surveys "types of financial aid, amounts available, the concentration of scholarship funds, who applies for and who gets aid, changes in population, costs of attending college, philosophy of aid, and whether financial aid is effective in reducing talent loss." Much of the current research on these topics is indicated in an extensive bibliography and summarized in discussion and resulting tabular data. West's general conclusion is that "one can find no systematized, unified, or well-developed program of scholarship which brings together the needs of the country and the needs of the talented students unable to finance their own education." In consequence, the author recommends "a Federal scholarship program designed to identify, in time, these students with great potential, to encourage able students to develop their talents, and to help students regardless of the low socioeconomic conditions of their families . . . ." This report is intended to present educators with a documented case for Federal aid. The documentation is itself a useful compilation of current data and sources.

VIII. ARTICULATION BETWEEN SCHOOL AND COLLEGE

67. "Articulation of Educational Progress." Review of Educational Research, vol. 30, p. 342-50. October, 1960.

This section of the chapter surveying research on "The Educational Program" was prepared by Chester L. Neudling, who cites 25 items in his discussion. He observes that the articulation problem has "stimulated examination of the total instructional program of later adolescence as a student-centered activity." He notes that advanced placement is currently the most active program for stimulating articulation, but additional research seems necessary to measure results and develop further means of adopting instruction to the student. Most pressing, however, is the practical need for a "formula of cooperation between public secondary schools and colleges to evolve . . . on course content, institutional objectives, and impact on student values." The types of research Neudling believes necessary are case studies and analysis to show how and why adjustments occur. He asks, "Can a continuum of development be drawn for typical students, specifying the responsibilities of formal education at each stage?"

68. College Entrance Examination Board, Educational Information and Guidance: A Selected Bibliography. New York, College Board,1966. 31 p.

"This bibliography of suggested readings, compiled for practicing and prospective school counselors, is a representative sample of the literature that directly relates to the transition from secondary school to college." Included are lists of directories, both commercial and professionally produced, works on curriculum, general guidance, admissions, financial aid, choice of college, publications relating to "Higher Education and College Students," and a list of educational journals publishing articles useful to guidance counselors.

69. Kraushaar, Otto F., "How the Changes in the School Curriculum Affect Colleges." In The Changing College Preparatory Curriculum: College Admissions #9, p. 75-81. New York, College Entrance Examination Board, 1962.

The lack of a true continuum, subject by subject, has been the Achilles' heel of American education. Recent curriculum reform, advanced placement, and early admissions are establishing a high degree of cooperation between school and college. What is needed now is flexibility in credit-hour requirements and scheduling so that attention may be given to students' education as an organic whole. This is a summary and admonitory paper presented at a colloquium of educators from schools and colleges.

70. Pearson, Richard, "The Changing School and College Relationship." Journal of General Education, vol. 17, p. 1-10. April, 1965.

Writing for a general audience, the president of the College Entrance Examination Board surveys the changing relationships between school and college from 1900 when regional accrediting associations established certification and external examinations as means of articulation. In the 1960's the great problem is that 1,000 or so secondary schools are distinguished institutions, while about 5,000 at the other end of the scale are too poor to strengthen their programs. The Commission on English represents an effort to improve curriculum so students with the best preparation may earn advanced placement. For students with weak backgrounds, the board is encouraging research to develop aptitude tests "that will give due allowance to accomplishment in a substandard academic program."

71. Sobine, Gordon A., "Is There Static in the Educational Channel?" College Board Review, No. 51, p. 30-33. Fall,1963.

This article, adapted from an address before the College Board, Midwest regional meeting, February 25-27, 1963, reports on a survey of admissions directors (66 in the Midwest region) and principals of 31 secondary schools. The survey established that communication between colleges and high schools "is an often complex, frequently twisted, and sometimes even purposely misleading matter." Admissions officers believe information about students is withheld, while high school administrators feel information they give is sometimes ignored by colleges and that admissions practices of colleges are at times erratic. High schools seem worried that colleges will limit admissions unduly, and admissions officers fear that high schools can undercut their work by faulty advice to students. The most significant conclusion to be drawn from the survey is that confidence must be achieved in the high school-college relationship if justice is to be done to the growing numbers of individual applicants for college admission.

72. Tyler, Ralph W., "The Impact of External Testing Programs." In The Impact and Improvement of School Testing Programs, p. 193-210. Sixty-Second Yearbook of the National Society for the Study of Education. Chicago, University of Chicago, 1963.

The author uses as a definition of external tests, "those which are used primarily by some institution or organization other than the high school, and those over which the local school has or feels it has no real choice as to whether its students take these tests." The chapter discusses for practitioners the "problem of external testing as seen by school administration." Among the problems seen by the administration are the public pressures for schools to participate in examination programs and the individual comparisons made among schools on the basis of numbers of scholarships winners. Especially significant are the pressures that tests provide for departure from the curriculum, the coaching of students for college admissions, and the resultant neglect of students not planning to go to college. Tyler points out that research data show the problems are real, and he offers suggestions for administration and coordination to help resolve the problems.

REACTIONS

In order for this second series of "New Dimensions in Higher Education" to better serve the needs of colleges and universities throughout the nation, reader reaction is herewith being sought. In this instance, with respect to Transition from School to College, the following questions are asked:

1. Can you suggest other completed research, the results of which would add significantly to this report?
2. What problems related to this subject should be given the highest priority, in terms of further research?
3. What helpful suggestions do you have for colleges and universities interested in improving the effectiveness of their own relationships with secondary schools, particularly in regard to the admissions process?
4. What suggestions, if any, do you have for the United States Office of Education with respect to further support of research and development activities in relation to this subject?

Kindly address reactions to:

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